

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An implantable spinal connector for mating a spinal fixation element to a spinal anchoring device, comprising:

a clamp member having top and bottom portions with a recess formed there between, the top and bottom portions including first and second ends, the second ends being connected to one another such that the top and bottom portions are a singular piece and are movable between an open position in which the top and bottom portions are spaced a distance apart from one another, and a closed position in which the clamp member is adapted to engage a spinal fixation element disposed within the recess, the top and bottom portions including inferior and superior surfaces, respectively, that extend from the recess to the first end, and the clamp member further including a bore located between the recess and the first end and extending through the top and bottom portions for receiving a locking mechanism for locking the top and bottom portions in the closed position,

wherein the bores in the top and bottom portions are coaxially aligned when the top and bottom portions are in the open position and when top and bottom portions are in the closed position;

wherein the bore in at least one of the top and bottom portions comprises a threaded bore and bottom portions being internally threaded for mating with corresponding threads formed on at least a portion of the locking mechanism, and the bore in the other of the top and bottom portions comprises an unthreaded bore such that the locking mechanism can freely rotate in the unthreaded bore prior to being received within the threaded bore to lock the top and bottom portions in the closed position; and

wherein the inferior and superior surfaces are configured to taper away from one another toward the first end along an entire length thereof from the recess to the first end when the locking mechanism is disposed and fully distally inserted in the bore extending through the top and bottom portions, and

wherein the top and bottom portions are biased to the open position such that a force greater than the biasing force must be applied to move the top and bottom portions to the closed position.

2-3. (Cancelled).

4. (Previously Presented) The implantable spinal connector of claim 1, wherein the recess is formed in at least one of the inferior surface of the top portion and the superior surface of the bottom portion.

5. (Original) The implantable spinal connector of claim 4, wherein the recess is formed in each of

the inferior surface of the top portion and the superior surface of the bottom portion of the clamp member.

6. (Previously Presented) The implantable spinal connector of claim 5, wherein the recess has a concave shape.

7. (Withdrawn) The implantable spinal connector of claim 1, wherein the top and bottom portions are hingedly coupled to one another at the second end thereof.

8. (Withdrawn) The implantable spinal connector of claim 1, further comprising a pivot pin extending through the second end of each of the top and bottom portions for hingedly mating the top and bottom portions to one another.

9. (Withdrawn) The implantable spinal connector of claim 8, wherein the pivot pin extends through a bore formed through and extending along a second end of each of the top and bottom portions of the clamp member.

10. (Withdrawn) The implantable spinal connector of claim 9, wherein the recess extends in a direction substantially parallel to a direction of the bore formed through and extending along the second end of each of the top and bottom portions of the clamp member.

11-12. (Cancelled).

13. (Original) The implantable spinal connector of claim 1, further comprising a locking mechanism disposable through the bore and effective to lock the top and bottom portions in the closed position to retain a spinal fixation element there between.

14. (Currently Amended) The implantable spinal connector of claim 13, wherein the locking mechanism comprises a fastening element having a head and a shaft, and wherein one of the bore formed in the top portion and the unthreaded bore formed in the bottom portion of the clamp member is adapted to freely rotatably receive the threaded shaft of the fastening element, and the other one of the threaded bore is adapted to formed in the top portion and the bore formed in the bottom portion is internally threaded to mate to threads formed on at least a portion of the shaft of the fastening element.

15. (Previously Presented) The implantable spinal connector of claim 14, wherein the fastening element includes a flange formed there around and adapted to at least temporarily mate the fastening element to a spinal anchoring device.
16. (Original) The implantable spinal connector of claim 14, wherein the bore in the top portion of the clamp member is internally threaded for mating with corresponding threads formed on at least a portion of the shaft.
17. (Original) The implantable spinal connector of claim 16, wherein the threads in the bore in the top portion of the clamp member and the threads formed on at least a portion of the shaft are left-handed threads.
18. (Original) The implantable spinal connector of claim 16, wherein the fastening element includes a mating element formed on a distal-most end thereof for mating with a driver tool.
19. (Original) The implantable spinal connector of claim 18, wherein the mating element comprises a socket.
20. (Withdrawn) The implantable spinal connector of claim 1, wherein the bottom portion of the clamp member is formed integrally with a spinal fixation plate.
21. (Withdrawn) The implantable spinal connector of claim 1, further comprising a recess formed in a superior surface of the top portion of the clamp member for seating a head of a fastening element.
22. (Original) The implantable spinal connector of claim 1, wherein the clamp member is formed from a material that allows the clamp member to deform around a spinal fixation element disposed between the top and bottom portions when the clamp member is locked in the closed position.
23. (Currently Amended) An implantable spinal connector for mating a spinal fixation element to a spinal anchoring device, comprising:
 - a clamp member having top and bottom portions with first and second terminal ends, the top and bottom portions being connected to one another at the second terminal end thereof such that the top and bottom portions are a singular piece and are movable between an open position and a closed position;

a recess formed between an inferior surface of the top portion of the clamp member and a superior surface of the bottom portion of the clamp member, the recess being adapted to seat a spinal fixation element therein, ~~the inferior surface of the top portion and the superior surface of the bottom portion tapering away from one another toward the first terminal end along an entire length thereof between the recess and the first terminal end when the top and bottom portions are in the closed position; and~~

axially aligned, concentric bores extending through the top and bottom portions at a location spaced apart from the recess, the bores being configured to receive a locking mechanism for locking the top and bottom portions in the closed position when the locking mechanism is fully distally inserted through the bores,

wherein the bore extending through one of the top and portions comprises a threaded bore for mating with corresponding threads formed on at least a portion of the locking mechanism, and the bore extending through the other of the top and bottom portions comprises an unthreaded bore such that the locking mechanism can freely rotate in the unthreaded bore,

wherein the unthreaded bore is configured to receive the locking mechanism such that when the threads of the locking mechanism are mated with threads of the threaded bore to lock the top and bottom portions in the closed position, an exterior surface of the locking mechanism faces an interior surface of the unthreaded bore without an intervening element being positioned therebetween, and

wherein the top and bottom portions are biased to the open position such that a force greater than the biasing force must be applied to move the top and bottom portions to the closed position.

24. (Currently Amended) The implantable spinal connector of claim 23, wherein the bore extending through the top portion is the threaded bore at least one of the concentric bores includes threads formed therein.

25. (Original) The implantable spinal connector of claim 24, wherein the threads are left-handed threads.

26-65. (Cancelled).

66. (New) The implantable spinal connector of claim 1, wherein the unthreaded bore is configured to receive the locking mechanism such that an exterior surface of the locking mechanism faces an interior surface of the unthreaded bore without an intervening element being positioned therebetween.

67. (New) The implantable spinal connector of claim 13, wherein the locking mechanism is bottom loading relative to the clamp member.